

EXHIBIT A

Case Number:
04722

Title of Invention:
Door Bolster with Integral Nibbed Armrest

Password:
nibbed

Date Conceived:

Date of first sketch, written description, or drawing of the invention:

Date first disclosed to anyone outside of company:

Confidential Agreement Number, If Applicable:
n/a

To whom was the invention disclosed:
Mark Heinze-Lear Employee

Vehicle this invention is proposed for, or plant this invention is scheduled for production use in:
Door trim panels

The likely date of first production:

Customer Desire:
This concept is a cost savings over current design executions of nibbed armrests because it eliminated the substrate component of the add-on armrest.

Where the invention is to be produced:
Lear interior trim plants

Where the invention is to be sold:
OEM door trim panels

Type of invention:
Apparatus/Device

Brief description of invention:
See Attached file for details of the design

The features of the invention you consider to be new:
Elimination of the armrest substrate and integrating it to the door trim bolster.

How the invention improves over previously known products or processes, and identify the closest

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technology of which you are aware:

Current Nibbed armrest execution involves the injection molded skin assembled to a substrate with is then attached to the door panel or door bolster. This concept eliminates the need for the substrate and assembles the nibbed armrest skin directly to the

Problem Solved:

Reduced the cost of an add-on armrest assembly

Division:

ISD

Product Group:

Doors (closures)

Component:

Arm Rest

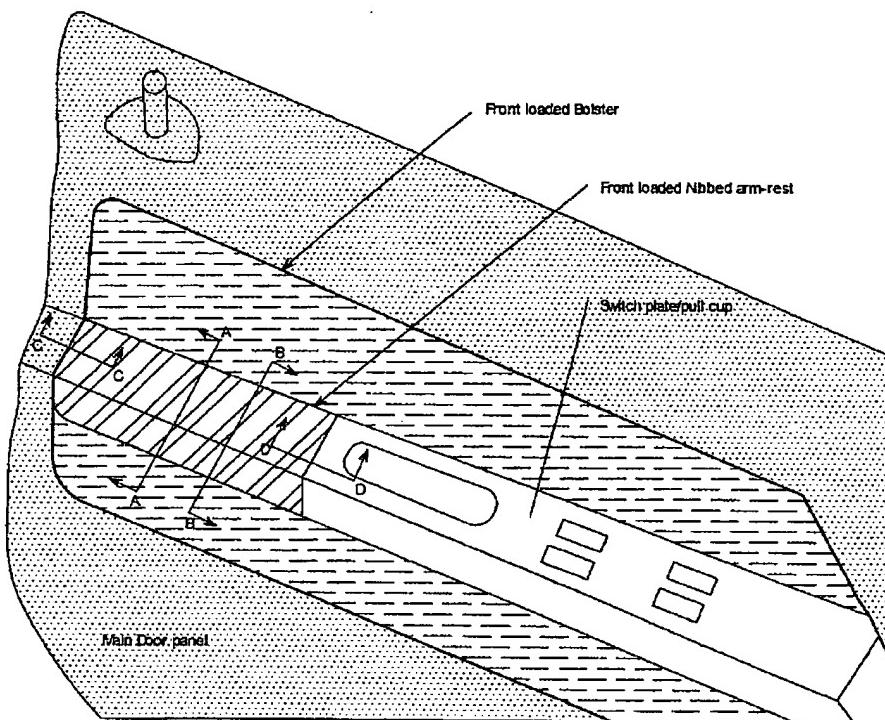
Project:**Inventor(s):**

Dooley, Dave (ddooley@lear.com)

Front Loaded Substrate-less Nibbed Armrest

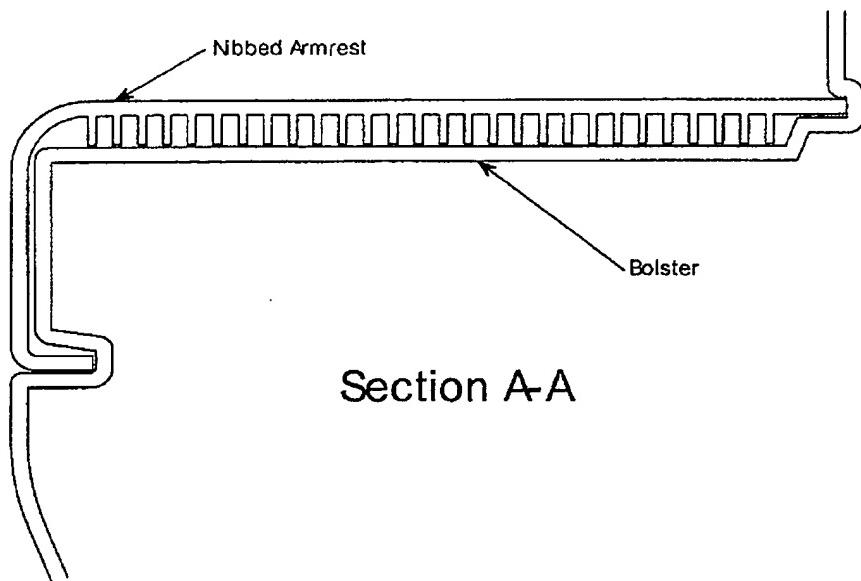
Using injection molding design standards, a design of a front loaded bolster can incorporate a nibbed armrest that does not require a separate substrate for the nibbed armrest. For this to be executable, the nibbed armrest must be molded out of a resin that is flexible and can be molded with die-locked conditions and contorted during assembly to the bolster. There are many resins that meet this requirement such as flexible PVC's and TPE's.

Sketch #1 below shows a basic door trim panel with standard components including a front loaded bolster and a nibbed arm-rest.



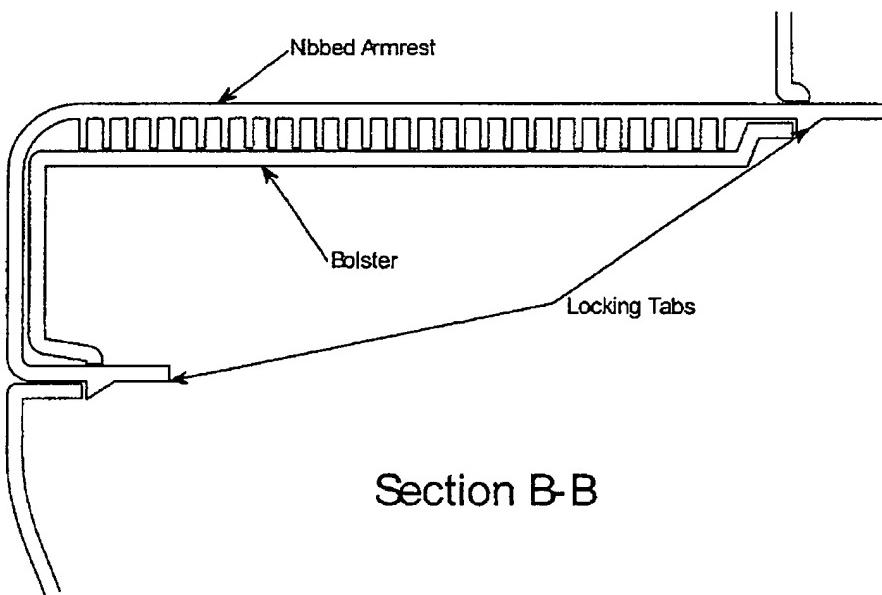
Sketch #1

Section A-A shows how the edges of the nibbed armrest are hidden in grooves in the bolster. Note that there are no die-locked conditions on the bolster that would require lifters or slides.



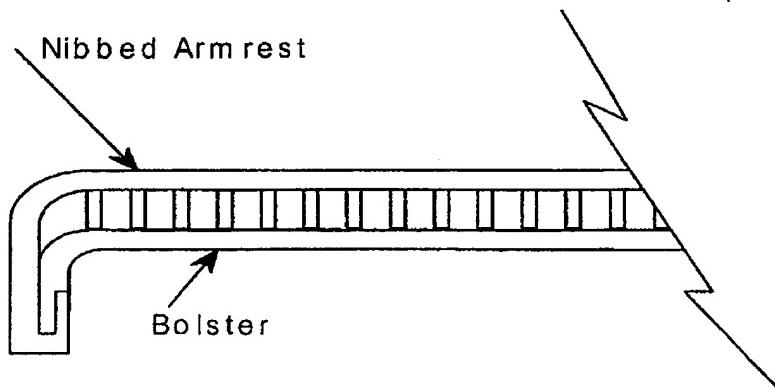
Section A-A

Section B-B shows how the locking tabs engage the bolster. Again, note that no lifters or slides are required to form any features in the bolster.



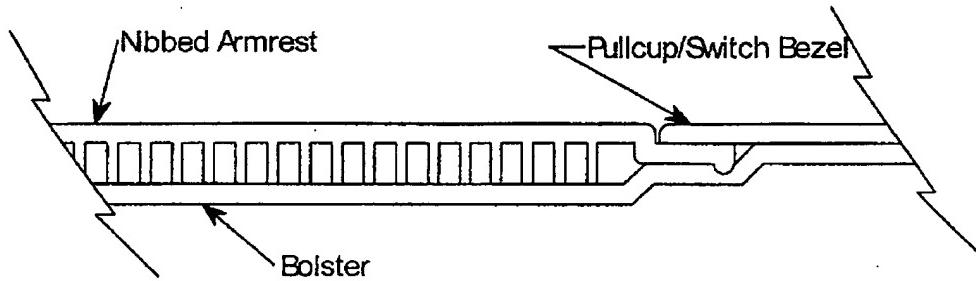
Section B-B

Section C-C shows how the edge of the nibbed armrest can be finished when the armrest covers the bolster up to an edge.



Section C-C

Section D-D shows an edge condition where the nibbed armrest is between the bolster and another front loaded component such as a pull cup or switch bezel. This would require the nibbed armrest to be loaded to the bolster before the pull cup/switch bezel is loaded.



Section D-D

The nibbed armrest has to be loaded onto the bolster before the bolster loaded onto the main panel. An edge condition like Section C-C could not be assembled if the door trim panel was in position. To assemble the nibbed armrest to the bolster, the edge shown in Section C-C should be placed in position on the bolster. The second step is to move the locking tabs into their mating openings in the tuck grooves on the bolster. Figures 1-3 show how the tabs engage and are pulled into the locked position.

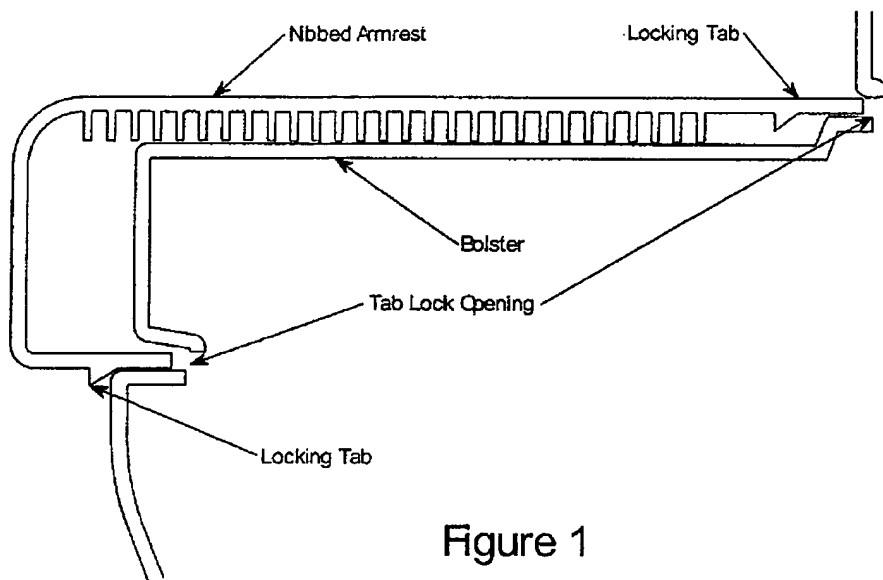


Figure 1

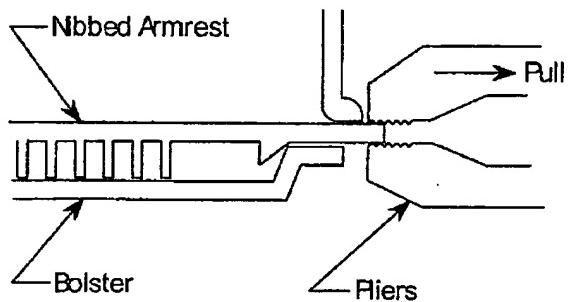


Figure 2

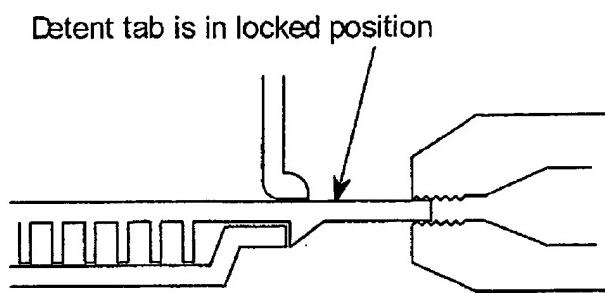


Figure 3

After all detent tabs are locked in position, the pull cup/switch bezel can be loaded on the bolster locking the last edge of the nibbed armrest in position (Section D-D). This can be done either before the bolster is loaded to the door panel or after.